

## ABSTRACT

A method and system for evaluating the operation of an alternator based on a frequency component in the alternator output signal. The method comprises detecting a frequency component of the alternator output signal, comparing the frequency component of the alternator output signal with a threshold frequency, and evaluating the operation of the alternator based on a result of the comparison. If the frequency component of the alternator output signal is lower than the threshold frequency, the alternator is determined as defective. The frequency component can be obtained by comparing the alternator output signal with an adaptive threshold. The adaptive threshold is generated based on the peak signal level and the valley signal level of the alternator output signal, such as the average of the peak signal level and valley signal level.